AMENDMENTS TO THE CLAIMS

The following claims replace all prior versions and listings of claims in the application:

1.   (Currently Amended) A method of discriminating voice, data, and facsimile calls communicated through a voice-over-packet network, comprising ~~the steps of~~:

providing an originating-side gateway, connected between an originating-side modem and a packet network;

providing an answering-side gateway, connected between an answering-side modem and the packet network;

identifying the existence of an answer signal (ANS) or a modified answer signal (ANSam) communicated between ~~an~~ the answering modem and ~~an~~ the originating modem over said packet network;

generating an ANS tone according to the protocols of said originating modem, using an originating-side gateway, when said existence of said ANS signal is identified by said answering-side gateway;

generating an ANSam tone according to the protocols of said originating modem, using said originating-side gateway, when said existence of said ANSam signal is identified by said answering-side gateway;

enabling a V.8 call menu signal (CM) detector after said existence of either of said ANS or ANSam signals is identified by said originating gateway;

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transitioning said originating gateway from a voice mode of operation to a voice

pass-through mode of operation after said existence of either of said ANS or ANSam

signals is identified by said originating gateway;

if the originating gateway detects a V.8 CM signal from the originating modem

prior to expiration of the ANS or ANSam signals, then:

identifying, by the originating gateway, the CM call function as either a

data modem CM signal from the originating modem or a facsimile CM signal

from the originating modem; and

if the CM call function is the data modem CM signal, transitioning the

originating gateway into an LLMR processing state if the CM call function is the

data modem CM signal, and if the CM call function is the facsimile CM signal,

preparing the originating modem to support a V.34 facsimile protocol and

transitioning the originating gateway to support the V.34 facsimile protocol in one

of the voice pass-through mode and a V.34 facsimile relay mode.

2-3.   (cancelled)

4.   (Currently Amended) The method of ~~claim 3~~ claim 1, further comprising ~~the steps~~

~~of~~:

if the originating gateway detects a V.8 CM signal subsequent to expiration of the

ANS or ANSam signals, then:

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identifying, by the originating gateway, the termination of the communication of

said ANS or said ANSam signal;

terminating said generation of said ANS or said ANSam tone <u>to the originating</u>

<u>modem in preparation for a non-V.34 facsimile mode,</u> when said termination of the

communication of said ANS or said ANSam signal is identified; and

disabling said CM detector when said termination of the communication of said

ANS or said ANSam signal is identified; and

transitioning said originating gateway to the ~~V.34 facsimile~~ <u>non-V.34 facsimile</u>

relay processing mode of operation when a <u>non-V.34</u> facsimile relay indication is

received from said answering modem over said packet network.

5.   (cancelled)

6.   (Currently Amended) A method of discriminating voice, data, and facsimile calls

communicated through a voice-over-packet network, comprising ~~the steps of~~:

<u>providing an originating-side gateway, connected between an originating-side</u>

<u>modem and a packet network;</u>

<u>providing an answering-side gateway, connected between an answering-side</u>

<u>modem and the packet network;</u>

identifying any one of an answer signal (ANS), a modified answer signal

(ANSam), a V.8bis CRe/MRe tone, or V.21 flags communicated between ~~an~~ <u>the</u>

answering modem and ~~an~~ <u>the</u> originating modem, using ~~an~~ <u>the</u> answering-side gateway

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that is capable of identifying each of said ANS signal, said ANSam signal, said V.8bis

CRe/MRe tone, and said V.21 flags; ~~and~~

with said answering-side gateway, converting said identified ANS signal, ANSam

signal, V.8bis CRe/MRe tone, or V.21 flags to a format that may be conveyed over said

packet network to said originating modem via ~~an~~ the originating-side gateway;

suppressing a voice path to said packet network, using said answering gateway,

when said V.8bis CRe/MRe tone is identified;

determining when said V.8bis CRe/MRe tone communication between said

answering modem and said originating modem terminates;

re-establishing said voice path when said V.8bis CRe/MRe tone terminates;

suppressing said voice path to said packet network, using said answering

gateway, when said ANS signal or said ANSam signal is detected;

transitioning said answering gateway to a ~~G.711~~ voice pass-through mode of

operation when said ANS signal or said ANSam signal is detected;

transitioning said answering gateway to a data mode using an LLMR processing

~~mode of~~ operation when ~~said~~ an LLMR indication is received from the originating-side

gateway;

transitioning said answering gateway to a V.34 facsimile processing mode of

operation when said V.34 facsimile relay indication is received from the originating-side

gateway;

re-establishing said voice path to said packet network, using said answering

gateway, when a termination of the communication of either of said ANS or ANSam

signals occurs; and

~~after executing the steps of claim 11,~~ transitioning said answering gateway to a

facsimile relay processing mode of operation when said V.21 flags are identified.

7-12 (cancelled)

13.   (New) A system, comprising:

a call-originating modem;

a call-originating gateway, connected between the call-originating modem and a

packet network; and

a call-answering gateway, connected between a call-answering modem and the

packet network,

wherein the system discriminates between one of a voice mode, a facsimile

mode, and a data mode of operation between the originating modem and the answering

modem over the packet network using an ANS/ANSam tone from the answering

gateway and V.8 call menu (CM) signal from the originating modem,

the originating modem establishes a voice call to the answering modem and the

originating gateway and the answering gateway enter the voice mode of operation,

when an ANS/ANSam (ANS) tone indication is received by the originating

gateway from the answering modem via the answering gateway, the originating

gateway generates an ANS tone to the originating modem, enables a V.8 CM detector,

and

when the originating gateway, in voice mode, detects a V.8 CM synchronization

sequence from the originating modem, the originating gateway suppresses the voice

path to the packet network and decodes V.8 CM from originating modem to determine

whether to transition to a facsimile mode or a data mode from the voice mode.

14. (New)   The system of claim 13, wherein when, after decoding the V.8 CM from

the originating modem, the originating gateway detects a data modem CM signal from

the originating modem prior to expiration of the received ANS signal, then the

originating modem supports V.34+ data modulation and the originating gateway

transitions to an LLMR processing state;

15. (New)   The system of claim 13, wherein when, after decoding the V.8 CM from

the originating modem, the originating gateway detects a facsimile CM from originating

modem prior to expiration of the received ANS signal, the originating modem is

prepared for V.34 fax protocol and the originating gateway remains either in the voice

codec pass-through mode or transitions to a V.34 fax relay mode;

16. (New)   The system of claim 13, wherein when the originating gateway, in voice

mode, detects a termination of the received ANS tone prior to the originating gateway

receiving the V.8 CM synchronization sequence from the originating modem, the

originating gateway discontinues transmitting the ANS tone to the originating modem, disables CM detection, remains in voice codec pass through mode, and transitions to facsimile relay mode when a facsimile signal is received from the answering gateway.

17. (New)   The system of claim 13, wherein when the call is established in voice mode between the originating modem and answering modem and a V.21 flag is detected by the answering gateway from the answering modem, the answering gateway transitions to a non-V.32 facsimile relay mode.

18. (New)   The system of claim 13, wherein when the call is established in voice mode between the originating modem and answering modem and the answering gateway detects a V.8bis CRe tone from the answering modem, the answering gateway suppresses the voice path to the network and transitions to the data state, and

when the V.8bis CRe tone ends from the answering modem, the answering gateway transitions to the voice mode state.

19. (New)   The system of claim 13, wherein, when the ANS/ANSam tone is received at the answering gateway from the answering modem, then the answering gateway suppresses the voice path to the network, transitions to voice codec pass-through mode, and transmits presence of the ANS/ANSam tone over the network to the originating gateway.

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20. (New) The system of claim 19, wherein when the answering gateway detects a V.34

facsimile relay signal from the originating gateway, then the answering gateway

transitions to a V.34 facsimile relay mode.

21. (New)   The system of claim 19, wherein when the answering gateway detects an

LLMR signal from the originating gateway, then the answering gateway transitions to an

LLMR processing mode.

22. (New)   The system of claim 19, wherein when the ANS signal is terminated from

the answering modem, the answering gateway enables the voice path to the network

and transitions to a facsimile relay mode when a V.21 flag is detected.